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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,890	09/14/2006	Srinivas Venkata Rama Gutta	USO40148	4313
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EXAMINER				
MARIAM, DANIEL G				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/598,890

**Applicant(s)**GUTTA, SRINIVAS VENKATA  
RAMA**Examiner**

DANIEL G. MARIAM

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/14/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Federal Circuit<sup>1</sup>, relying upon Supreme Court precedent<sup>2</sup>, has indicated that a statutory “process” under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the “machine or transformation test”, whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim’s scope to impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at 590”). While the instant claim recite a series of steps or acts to be performed, the claim neither transform an article nor positively tie to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. That is, there is no depiction of transformed data as external representation of physical object (display representing the identified fingerprint image data) or the transforming, matching, and authenticating can be performed manually without requiring a particular machine.

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<sup>1</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

<sup>2</sup> *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

Since claims 2-9 directly or indirectly depend on claim 1, they re also rejected under 35 U.S.C. 101, for the same reason set forth above for claim 1.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 recites the limitation “transforming each two control fingerprint image” in line 1-2. It is unclear which two control fingerprint images being considered since the prior claim considers each of the control fingerprint images. A similar limitation also occurs in claim 5-7 and 16-19. Please clarify.

***Examiner's Note***

4. Examiner has cited particular columns and line numbers or figures in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 8-15, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain, et al (Hand Book of Image and Video Processing: Fingerprint Classification and Matching).

With regard to claim 1, Jain, et al. discloses a fingerprint authentication method (20) for a user fingerprint image (UFI), i.e., input fingerprint image/feature, based on a plurality of control fingerprint images (CFI), i.e., template fingerprint images/features, the method comprising: (S24) transforming each control fingerprint images (CFI) into a transformed control fingerprint image (TCF1) as a function of a pressure map (PM) associated with the user fingerprint image (UFI); (S26) matching each transformed control fingerprint image (TCFI) to the user fingerprint image (UFI); and (S28) authenticating a first transformed control fingerprint image (TCFI) having a best match (via scoring) with the user fingerprint image (UFI) as an identified fingerprint image (IFI) (See for example, section 11, pp. 831-833). Although Jain, et al. does not specifically say transforming each control finger print image into a transformed control fingerprint image as a function of pressure, it would have been obvious if not inherent that a significant force or pressure is applied to obtain ridges or ridge map of the finger when a user's finger is in contact with the platen.

With regard to claim 2, the fingerprint authentication method (20) of claim 1, further comprising: (S22) deriving the user fingerprint image (UFI) from the pressure map (PM),

wherein the user fingerprint image (UFI) is a black and white fingerprint image (See for example, section 6, pp. 23-24).

With regard to claim 3, the fingerprint authentication method (20) of claim 1, further comprising: (S22) deriving the user fingerprint image (UFI) from the pressure map (PM), wherein the user fingerprint image (UFI) is a grayscale fingerprint image (See for example, section 8, page 826).

With regard to claim 8, the fingerprint identification method (20) of claim 1, wherein (S26) matching each transformed control fingerprint image (TCFI) to the user fingerprint image (UFI) includes: computing a matching score of each transformed control fingerprint image (TCFI) to the user fingerprint image (UFI) (See for example, section 11, page 833).

With regard to claim 9, the fingerprint identification method (20) of claim 1, wherein (S28) authenticating the first transformed control fingerprint image (TCFI) having the best match with the user fingerprint image (UFI) as an identified fingerprint image (IFI) includes: selecting the first transformed control fingerprint image (TCFI) based on the first transformed control fingerprint image (TCFI) having a highest matching score among all of the matching scores (See for example, section 11, page 833).

Claim 10 is rejected the same as claim 1 except claim 10 is directed to an apparatus claim. Thus, argument similar to that presented above for claim 1 is applicable to claim 10. Applicant's attention is further invited to Figure 2 page 823, for example.

Claims 11 and 12 are rejected the same as claims 2 and 3 respectively except claims 11 and 12 are apparatus claims. Thus, arguments similar to those presented above for claims 2 and 3 are respectively applicable to claims 11 and 12.

With regard to claim 13, a database (50) operable to store a plurality of control fingerprint images (CFI) (system database); and a fingerprint module (41 and 80) (authentication module) operable to retrieve the plurality of control fingerprint images (CFI) from the database (50) to thereby authenticate one of the control fingerprint images (CFI) with a user fingerprint image (UFI), wherein the fingerprint module (41 and 80) is further operable to transform each control fingerprint images (CFI) into a transformed control fingerprint image (TCFI) as a function of a pressure map (PM) associated with the user fingerprint image (UFI); wherein the fingerprint module (41 and 80) is further operable to match each transformed control fingerprint image (TCFI) to the user fingerprint image (UFI); and wherein the fingerprint module (41 and 80) is further operable to authenticate a first transformed control fingerprint image (TCFI) having a best match with the user fingerprint image (UFI) as an identified fingerprint image (IFI) (See for example, Figure 2; and section 11, pp. 831-833). Although Jain, et al. does not specifically say transforming each control finger print image into a transformed control fingerprint image as a function of pressure, it would have been obvious if not inherent that a significant force or pressure is required to obtain ridges or ridge map of the finger when a user's finger is in contact with the platen.

. Claims 14 and 15 are rejected the same as claims 11 and 12 respectively. Thus, arguments similar to those presented above for claims 11 and 12 are respectively applicable to claims 14 and 15.

Claims 20 and 21 are rejected the same as claims 8 and 9 respectively except claims 20 and 21 are system claims. Thus, arguments similar to those presented above for claims 8 and 9 are respectively applicable to claims 20 and 21.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Numbers: 5180901, 6064753, and 6314197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G. MARIAM whose telephone number is 571-272-7394. The examiner can normally be reached on M-F (7:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIKKRAM BALI can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIEL G MARIAM/  
Primary Examiner, Art Unit 2624



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